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PARIS AIR SHOW

Israelis Offer Combat-Proved Electronic Intelligence Hardware

By Jay C. Lowndes

Paris—Israel Aircraft Industries, Ltd., demonstrated at the 36th Paris air show electronic intelligence gathering equipment that was proved during actual combat and offered the equipment for sale in the export market.

Demonstration of the Electronics Div.'s Stabilized Long-Range Observation System (Slos) for border patrol and maritime surveillance/reconnaissance missions consisted of taped video from the optical sensor shown to visitors at a reception and conference facility adjacent to the company's public exhibit pavilion at Le Bourget.

Mini-AWACS Configuration

The division's Tamam Precision Instruments subsidiary designed and built the sensor and associated electronics for installation on light aircraft as part of a tactical mini-AWACS (airborne warning and control system) instrument configuration. Videcon optical imagery is obtained during the day and infrared at night.

The hardware weighs 100 kg. (220 lb.) including an air-to-ground data link with the capability to provide real-time video at a command center up to 200 km. (124 mi.) away.

Iddo N. Foxman, Tamam's manager of international marketing, said the system is in service with the Israeli Defense Forces, that video of enemy troop movement and equipment operation is available at a range of 100 mi. but imagery at a range of over 70 mi. is classified.

The tapes at Le Bourget showed persons running, ships at sea, a truck dumping material at a road intersection apparently for a roadblock, tanks moving along a highway and battle scenes Foxman said were obtained during actual combat at ranges from 10-70 mi.

Target Recognition

Detection of large targets such as ships is possible at the longer ranges and recognition of small targets is possible at 10 mi. and larger targets such as tanks at 20 mi., according to Foxman. Slos is designed for integration with a variety of signal intelligence (sigint) systems for positive target identification.

The real-time airborne reconnaissance/surveillance payload for the Scout remotely piloted vehicle is another product of this Israel Aircraft subsidiary.

Tamam was formed in 1964 to handle design, development, manufacture and logistic support of navigation, reference, stabilization and optronic systems. The subsidiary provided its KT/70 and SKI/2300 inertial measurement units for the Kfir C-2 fighter as well as the aircraft's air data computer, and Tamam will provide an advanced inertial navigation system (INS) for the Lavi.

Annual sales exceed $75 million, 45% of which is from exports.

Moshe Ortasse, corporate vice president and general manager of the Electronics Div., said the division's strategy involves creation of integrated approaches to customer requirements called "hypersystems" that involve tactical concepts, hardware and infrastructure providing a force multiplier. In addition to command, control, communications and intelligence, the division is penetrating fields such as air defense, air defense suppression and artillery.

Ortasse said the division's objective is to provide the right mix of technology at the system level to progress from statistical probabilities of success exemplified by artillery that is accurate within 300 meters (984 ft.) to tactical precision exemplified by accuracies of 30 meters (98.4 ft.) finally achieving in the future a level of confidence such as a commander with artillery accurate to within 30 cm. (12 in.) would possess.

Achieving this objective involves comprehensive evaluation of Soviet military doctrine, Ortasse said.

Annual division turnover is $360 million, 50% of which is from domestic sales. Ortasse estimated the backlog in the order book at three years and expressed a desire to expand by pushing international sales to 70% of the total.

The division's Elta Electronics Industries, Ltd., subsidiary has completed installation of its airborne signal intelligence hardware on Boeing 707 aircraft, and deliveries have begun, according to Moty Roizis, Elta's manager of international marketing. Bedek Aviation in Tel Aviv, the company's service division, handles the installations.

Pursuit of installation possibilities on the Israel Aircraft Arava transport, the Boeing 727 and 737 as well as the Lockheed C-130 is continuing, according to Roizis.

The hardware includes two consoles, an EL/L 8312A electronic intelligence (elint) system sensitive from 500 MHz. to 18 GHz. and an EL/K 7032 communications intelligence (comint) system sensitive from 20-1,000 MHz.

The elint video includes an automatic map function that locates emitters as well as the host aircraft and a statistical display of signal parameters and precise location coordinates. Signal identity and characteristics are stored for use in electronic warfare.

The comint system includes a video display similar to that of the elint system and automatic scan receivers and tape recorders for searching open channels for signals of interest and preserving selected communications for later analysis.

Two operators can be accommodated allowing one to monitor a channel while the other continues to scan, Roizis said.

The design range of the sigint system is more than 400 km. (249 mi.) at an altitude of 36,000 ft.

A ground support system provided by Elta includes a computerized EL/L 8352 station for processing and analysis of collected data. Full logistical support is included with training, spares and an EL/L 8351 training simulator.

Other Elta equipment displayed at the show included the EL/M-2106H multitarget point defense alert radar, the AMDR automatic missile detection radar and the IP-36 range and height indicator display.

The point defense radar scans 360 deg. and up to an altitude of 8,000 ft. Additional capabilities include sweep-to-sweep memory and remote control from a distance up to 100 meters (328 ft.). The design is for transportability with a set-up time of 10 min. Helicopter detection range is 8-10 km. (5.0-6.2 mi.) for 2-sq.-meter (21-sq.-ft.) targets. Fixed-wing aircraft detection range is more than 16 km. (10 mi.) for 2-sq.-meter targets.

The radar has been sold to 12 nations, according to a company official.

Surface vessels over 450 tons can accommodate the AMDR radar requiring hardware including a 220-kg. (485-lb.) mast-mounted antenna, high-power coherent transmitter, wide dynamic receiver, 16-bit microprocessor for control and management, 64K word data processor for correlation and tracking, local and remote-control logic and communication capability using two 8-bit microprocessors.

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